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REMARKS

Please reconsider the application in view of the above amendments and the following remarks. Applicant thanks the Examiner for carefully considering this application.

Disposition of Claims

Claims 1-9, 12-13, 15, 17-24, 30-32, 34-40, 51-52, and 55-60 are pending in this application. Claims 1, 31, 35, 37, 51-52, 56, and 59 are independent. The remaining claims depend, directly or indirectly, from claims 1, 31, 35, 37, 56, and 59.

Amendments to the Drawings

Figures 1 and 2 have been amended to correct typographical errors found in the drawings. Specifically, Figure 1 was amended to add a numerical identifier of "10" for the article (10), and Figure 2 was amended to correct an error in the numerical identifier for the chamber cover (103).

Rejection(s) under 35 U.S.C § 103

REJECTIONS OF CLAIMS 1-9, 18-21, 27, 30, AND 35-36:

Claims 1-9, 18-21, 27, 30, and 35-36 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 4,145,740 ("McClean") in view of U.S. Patent No. 4,172,562 ("Smith"). Claims 1 and 2 have been amended in this reply to correct typographical errors. To the extent that this rejection still applies to the amended claims, the rejection is respectfully traversed.

Independent claims 1 and 35 each recite a system for winding fibers onto an article that includes a winding station having at least one fiber bobbin and a conveyor, wherein the conveyor is adapted to move the article axially through the winding station. In claim 1, the above-mentioned system further includes a sensor and a controller operatively coupled to the sensor. In claim 35, in addition to the winding station and the conveyor, the above-mentioned system further includes a resin ring coupled to the winding station, wherein the fibers are impregnated with resin prior to winding onto the article.

In the present application, Figure 1 shows an exemplary system for winding fibers (26) onto an article (10) that includes a winding station (W) and a conveyor (C). As described for Figure 1, the article (10) is drawn through the system substantially axially therethrough by the conveyor (C), and, as the article (10) is drawn through, the winding station (W) rotates about the article so that fibers (26) are wound about the exterior surface of the article (10) (page 4, lines 22-25, page 5, lines 12-14). Advantageously, because the article (10) is the item that is moved axially, the system may be used to process continuous articles, *e.g.*, continuously-made tubings such as would be used in petroleum wellbores, in addition to discrete articles, *e.g.*, segments of continuously-made tubings (page 4, lines 25-29). Further, as is known in the art, a continuously-made tubing may have a length of tens of thousands of feet or may be of a non-predetermined length (page 9, lines 5-10).

Regarding claims 1 and 35, the Examiner asserts that it would have been obvious to combine “a conveyor (6) for moving a fiber winder” as disclosed by McClean with a capability of “reciprocating a mandrel in an axial motion” as disclosed by Smith to produce a known equivalent of the claimed system. The Examiner notes that the system produced by the combination of McClean and Smith would have the capability of “moving a winding station axially with respect to an article” rather than the capability of “moving an article axially with respect to a winding station.” Accordingly, articles processed using such a system would be restricted to non-axial (or stationary), rotational motion.

However, as would be appreciated by one in the art, the length of continuously-made articles makes stationary application of fibers an unfeasible, if not impossible, task. As a result, in contrast to the systems recited in claims 1 and 35, the system produced by the combination of McClean and Smith would not be capable of processing continuous articles. Thus, the combination of McClean and Smith does not represent a “known equivalent” of the present invention.

Further, the Examiner asserts that a combination of McClean and Smith would be a known equivalent of the recited system because “small articles benefit from axial motion by keeping a relatively heavier applicator stationary, while larger articles would be too unwieldy to move and would require movable dispensers.” However, as is known

in the art, the opposite is true. Specifically, smaller discrete-length articles are easier to move, and thus, may be moved using “movable dispensers.” Likewise, because “the larger articles are too unwieldy to move,” larger discrete-length articles are best kept stationary, and, thus, “benefit from axial motion by keeping a relatively heavier applicator stationary.”

Accordingly, the Examiner’s assertion may not be used to support an asserted equivalency between the system recited in claims 1 and 35 and the system produced by the combination of McClean and Smith because, as discussed above, the nature of continuously-made articles makes stationary application of fibers an unfeasible, if not impossible, task. Thus, it would not have been obvious to combine McClean and Smith to arrive at a “known equivalent” of the present invention.

Further, the Examiner has provided no evidence of any suggestion, whether implicit or explicit in either Smith or McClean that would provide one of ordinary skill in the art the motivation to combine the references. There is no reason to assume that one of ordinary skill would combine Smith and McClean and then modify them in the manner suggested. Accordingly, the Applicant requests that the Examiner provide some reasoning as to why one of ordinary skill would be motivated to combine Smith with McClean.

The present invention advantageously provides, therefore, a system that can manufacture articles that would be impossible to manufacture by the combination of Smith and McClean.

In view of the above, McClean and Smith, whether considered separately or in combination, fail to show or suggest the present invention as recited in independent claims 1 and 35. Thus, these claims are patentable over McClean in view of Smith. The remaining claims depend, either directly or indirectly, from claims 1 and 35, and, thus, are allowable for at least the same reasons. Accordingly, withdrawal of this rejection is respectfully requested.

REJECTION OF CLAIM 22:

Claim 22 stands rejected under 35 U.S.C. § 103(a) as being unpatentable over McClean in view of Smith, as applied above to claim 1, and further in view of U.S.

Patent No. 3,970,495 (“Ashton”). This rejection is respectfully traversed. As described above with respect to independent claim 1, McClean and Smith fail to show or suggest the present invention as claimed. Further, Ashton fails to provide that which McClean and Smith lack with respect to the present invention, whether considered separately or in combination. Thus, claim 22, which depends from claim 1, is patentable over McClean in view of Smith and Ashton. Accordingly, withdrawal of this rejection is respectfully requested.

REJECTIONS OF CLAIMS 12 AND 17:

Claims 12 and 17 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over McClean in view of Smith, as applied above to claim 1, and further in view of and U.S. Patent No. 4,359,356 (“Kornbichler”). This rejection is respectfully traversed. As described above with respect to independent claim 1, McClean and Smith fail to show or suggest the present invention as claimed. Further, Kornbichler fails to provide that which McClean and Smith lack with respect to the present invention, whether considered separately or in combination. Thus, claim 12, which depends from claim 1, is patentable over McClean in view of Smith and Kornbichler. Claim 17 depends from claim 12, and, thus, is allowable for at least the same reasons. Accordingly, withdrawal of this rejection is respectfully requested.

REJECTIONS OF CLAIMS 13-15 AND 23-25:

Claims 13-15 and 23-25 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over McClean in view of Smith and Kornbichler, as applied above to claim 12, and further in view of U.S. Patent No. 5,032,211 (“Shinno”). This rejection is respectfully traversed. As described above with respect to claim 12, McClean, Smith, Kornbichler, fail to show or suggest the present invention as claimed in claim 1. Further, Shinno fails to provide that which McClean, Smith, and Kornbichler lack with respect to the present invention, whether considered separately or in combination. Thus, claims 13 and 25, which depend respectively from claims 12 and 1, are patentable over McClean in view of Smith, Kornbichler, and Shinno. Claim 14-15 and claims 24-25 respectively depend from claims 12 and 23, and, thus, are allowable for at least the same reasons.

Accordingly, withdrawal of this rejection is respectfully requested.

REJECTION OF CLAIM 31:

Claim 31 stands rejected under 35 U.S.C. § 103(a) as being unpatentable over Kornbichler in view of Smith. This rejection is respectfully traversed.

Independent claim 31 recites a system for winding fibers onto an article that includes a winding station having at least one fiber bobbin, a conveyor, and a brake rotationally coupled to the at least one fiber bobbin. The conveyor is adapted to move the article axially through the winding station.

The Examiner asserts that it would have been obvious to combine “a conveyor (6) for moving a fiber winder” as disclosed by Kornbichler with a capability of “reciprocating a mandrel in an axial motion” as disclosed by Smith to produce a known equivalent of the recited system. Consequently, the system produced by the combination of Kornbichler and Smith would have the capability of “moving a winding station axially with respect to an article” rather than the capability of “moving an article axially with respect to a winding station.”

However, as is described above with respect claims 1 and 35, such a system does not represent a “known equivalent” of the present invention. Further, the Examiner asserts that a combination of Kornbichler and Smith would be a known equivalent of the recited system because “small articles benefit from axial motion by keeping a relatively heavier applicator stationary, while larger articles would be too unwieldy to move and would require movable dispensers.” However, as is described above with respect to claims 1 and 35, based on the inaccuracy of the Examiner’s assertion and the nature of a continuous article, it would not have been obvious to combine Kornbichler and Smith to arrive at a “known equivalent” of the present invention.

In view of the above, Kornbichler and Smith, whether considered separately or in combination, fail to show or suggest the present invention as recited in independent claim 31. Thus, this claim is patentable over Kornbichler in view of Smith. Accordingly, withdrawal of this rejection is respectfully requested.

REJECTIONS OF CLAIMS 32-34 AND 37-39:

Claims 32-34 and 37-39 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Kornbichler in view of Smith as applied above to claim 31, and further in view of Shinno. This rejection is respectfully traversed.

Independent claim 37 recites a system for winding fibers onto an article that includes a winding station having at least one fiber bobbin, a conveyor, and a detector coupled to a controller. The conveyor is adapted to move the article axially through the winding station.

As described above with respect to independent claim 31, Kornbichler and Smith fail to show or suggest the present invention as claimed. Further, Shinno fails to provide that which Kornbichler and Smith lack with respect to the present invention, whether considered separately or in combination. Thus, claim 32, which depends from claim 31, is patentable over Shinno in view of Smith and Kornbichler. Likewise, claim 37, which discloses a system having conveyor similar to the conveyor disclosed in claim 31, is patentable over Shinno in view of Smith and Kornbichler. Claims 33-34 and 38-39 respectively depend from claims 32 and 37, and, thus, are allowable for at least the same reasons. Accordingly, withdrawal of this rejection is respectfully requested.

REJECTIONS OF CLAIMS 51-52 AND 55:

Claims 51-52 and 55 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Kornbichler in view of Smith, McClean and Shinno. This rejection is respectfully traversed.

Independent claims 51 and 52 each recite a system for winding fibers onto an article that includes a winding station having at least one fiber bobbin and a conveyor, wherein the conveyor is adapted to move the article axially through the winding station. In claim 51, the above-mentioned system further includes a plurality of sensors, a controller, a resin ring, a controllable force brake, and a detector. In claim 52, in addition to the winding station and the conveyor, the above-mentioned system further includes a detector coupled to a controller.

As is shown above, claims 51 and 52 each disclose a system having conveyor similar to the conveyor disclosed in claim 31. As described above with respect to

independent claim 31, Kornbichler and Smith fail to show or suggest the present invention as claimed. Further, McClean and Shinno fail to provide that which Kornbichler and Smith lack with respect to the present invention, whether considered separately or in combination. Thus, claims 51 and 52 are patentable over Kornbichler in view of Smith, McClean and Shinno. Claim 55 depends from claim 52, and, thus, is allowable for at least the same reasons. Accordingly, withdrawal of this rejection is respectfully requested.

REJECTIONS OF CLAIMS 55-60:

Claims 56-60 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Kornbichler in view of Smith, McClean, Shinno as applied above to claim 51, and further in view of U.S. Patent No. 5,942,059 (“Wulker”). This rejection is respectfully traversed.

Independent claims 56 and 59 each recite a system for winding fibers onto an article that includes a winding station having at least one fiber bobbin and a conveyor, wherein the conveyor is adapted to move the article axially through the winding station. In claim 56, the above-mentioned system further includes a brake rotationally coupled to the at least one fiber bobbin, a sensor, and a controller coupled to the brake and the sensor. In claim 59, in addition to the winding station and the conveyor, the above-mentioned system further includes a sensor and a controller coupled to the sensor.

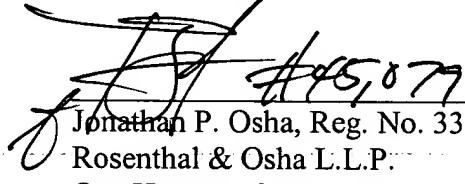
As is shown above, claims 56 and 59 each disclose a system having conveyor similar to the conveyor disclosed in claim 51. As described above with respect to independent claim 51, Kornbichler, Smith, McClean, and Shinno fail to show or suggest the present invention as claimed. Further, Wulker fails to provide that which Kornbichler, Smith, McClean, and Shinno lack with respect to the present invention, whether considered separately or in combination. Thus, claims 56 and 59 are patentable over Kornbichler in view of Smith, McClean and Shinno. Claims 57-58 and claim 60 respectively depend from claims 56 and 59, and, thus, are allowable for at least the same reasons. Accordingly, withdrawal of this rejection is respectfully requested.

Conclusion

Applicant believes this reply to be fully responsive to all outstanding issues and place this application in condition for allowance. If this belief is incorrect, or other issues arise, do not hesitate to contact the undersigned or his associates at the telephone number listed below. Please apply any charges not covered, or any credits, to Deposit Account 50-0591 (Reference Number 09432.130002).

Respectfully submitted,

Date: 4/21/03



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